

REMARKS/ARGUMENTS

Claims 1-11 are pending in this case. Claims 1-11 are rejected. By this Amendment, claims 1 and 8 are amended. No claims are cancelled. Further consideration is requested in view of the above claim amendments and the following remarks.

Claims 1 and 8 stand rejected as being anticipated by Draper, et al. (U.S. Publ. No. 2006/0034182). Claims 1, 8, 10 and 11 have been rejected as anticipated by Kahlman (U.S. Patent No. 6,272,102). Claims 2-4 and 9 are rejected as obvious over Kahlman. Finally, claims 5-7 are rejected as obvious over Kahlman in further view of Lavrenov (GB 1,566,169).

Independent claims 1 and 8 have been amended and set forth above to better distinguish the invention over the cited prior art documents and particularly Draper and Kahlman, which both disclose the independent averaging of the maximum and the minimum values of the signal.

No new matter has been added to independent claims 1 and 8, as amended. Proper support for the amended claims 1 and 8 can be found in page 5, line 7 of the published PCT application, which is reproduced below:

" To calculate a slicer threshold which is independent of long logic "1" or "0" sequences in the binary signal, even in case of a binary signal with noise, the circuit 10 has a bit level detector 30. Detector 30 is designed to activate the storage of a new value in shift registers 24 and 26 only upon occurrence of a bit level change. "

Independent claim 8 is revised accordingly, by introducing the bit level detector which is a unique feature of the invention.

It is deemed that the newly revised independent claims now clearly distinguish over the cited prior art documents. The remaining dependent claims are also deemed to distinguish over the cited prior art documents as being dependent upon an allowable base claim.

1. Regarding Draper, et al. (U.S. Publ. No. 2006/0034182), it should be noticed that, even though such prior art document discloses the following common features (with the invention):

- the min/maximum peak detectors 744;
- an averaging unit

It should be noticed that the context of Draper is quite different to that of the present invention. Draper is focusing on the demodulation of a second low rate channel (a so-called "system data") which amplitude modulated on a first high rate channel (a so-called "network data") .

[0010] In one embodiment a system is disclosed for modulating system data onto a network data signal in a communication device to thereby transmit system data with the network data.

And

[0051] Because the network data from the data source 604 is amplitude modulated by the system data or secondary data on the low frequency side channel 612A, the fiber optic conductor(s) 624 concurrently carry the network data and the system data.

Averaging of the min peak and max peak is necessary in Draper in order to re-establish the low rate system data:

[0064] It should be noted that the low frequency side channel data is at a frequency rate which is below the network data. In one embodiment the frequency of the system data is 100 times slower than the frequency of the network data. Thus for every data sample of system data, there may be 100 or more samples of network data. In one example embodiment, the system data is provided at a rate of 1000-10,000 Hertz while the network data may be at 1 GHz or higher frequency. In one embodiment the network data is at a rate that is greater than 10 times the data rate of the system data. As can be appreciated there will be numerous samples of network data for each system data sample and, because of use of the scrambler 708, the numerous samples of network data will include numerous logic zero values and numerous logic one values. In such an embodiment regardless of the particular amplitude modulation scheme utilized the system data can be recovered.

Clearly, for achieving amplitude demodulation of the signal, there is required to perform an integration or, basically, an averaging of the min/max peak detectors which, eventually, allows to recover the "system data": "[0067] .. (.) By monitoring and tracking the compensation provided by the control loop or bias loop, the amplitude modulation may be detected and as a result the system data is recovered."

The invention also uses max/min peak detectors but in a clearly different context, which is certainly not dedicated to the establishment of a second channel. The present invention addresses the problem of achieving, at the same time, rapid move up or down of the slicer threshold in case of modification in the binary signal level and insensitivity to long sequence of logical "1" or logical "0". Rapidity is achieved since only four values are used to calculate the average maximum peak value and the average minimum peak value. So after a time period of at least eight one bit periods, the influences of the noise present before the preamble is nearly eliminated. (See page 11, line 10).

Insensitivity to a long sequence of logical "1" or logical "0" is achieved by activating the storage of a new value in shift registers 24 and 26 only upon occurrence of a bit level change.

It should be noticed that, in that respect, Draper's system is absolutely not concerned with such problem because of the presence of the scrambler 708, the goal of which being to avoid the presence of long sequence of logical "1" or "0":

[0056] In the embodiment shown in FIG. 7, an input 704 provides network data to a scrambler 708. The scrambler 708, which is known by those of ordinary skill in the art, processes the network data to inhibit undesirably long strings of logic value zeros or logic value ones which may otherwise disrupt system operation. "

It is therefore believed that the new independent claims clearly distinguish over Draper's system.

2. In addition, the subject matter of independent claims 1 and 8 now distinguishes over Kahlman which, also discloses the max/min peak detectors.

But, firstly, it should be noticed that Kahlman's averaging is limited to a single clock period.

Secondly, there is no equivalent feature to the couple of register/bit level detector that achieves the "storing said detected minimum only upon occurrence of a bit level change", which is now clearly recited in the independent claims.

In view of the significant advantage resulting from such a unique feature, it is expected that the inventive step of the newly submitted independent claim shall be reconsidered by the US Examiner.

In view of all of the above, the claims are now believed to be allowable and the case in condition for allowance which action is respectfully requested. Should the Examiner be of the opinion that a telephone conference would expedite the prosecution of this case, the Examiner is requested to contact Applicant's attorney at the telephone number listed below.

No fee is believed due for this submittal. However, any fee deficiency associated with this submittal may be charged to Deposit Account No. 50-1123.

Respectfully submitted,

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